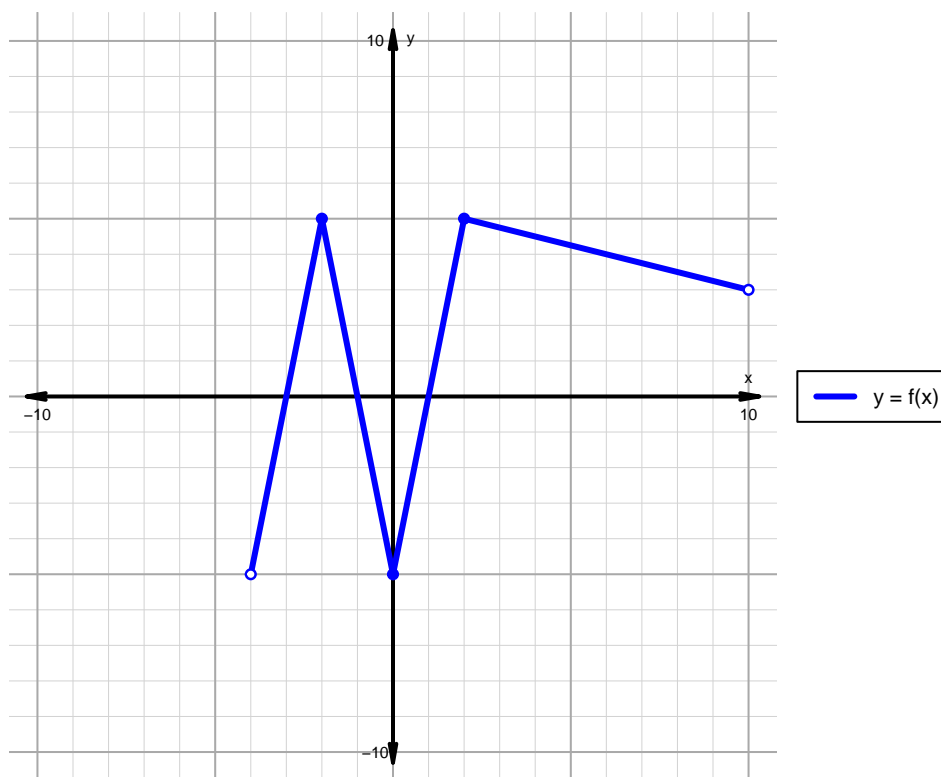


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 39)

1. The function f is graphed below.

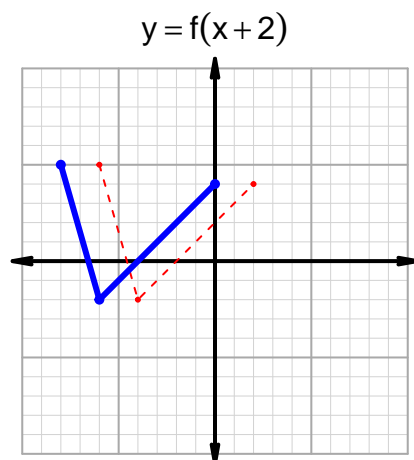
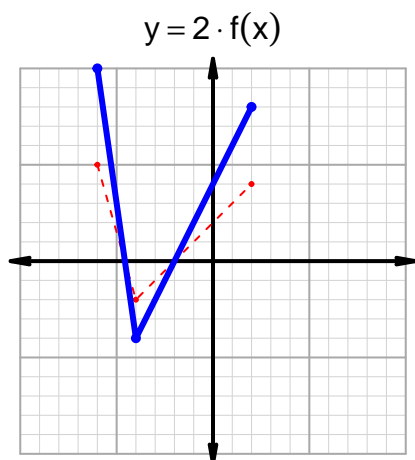
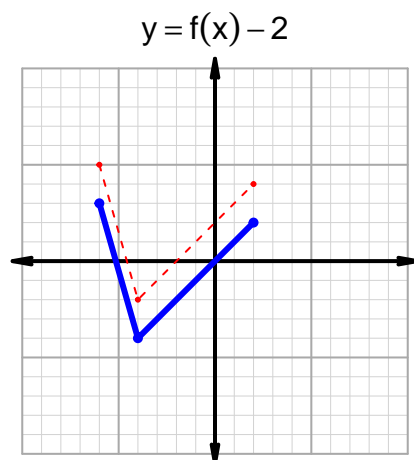
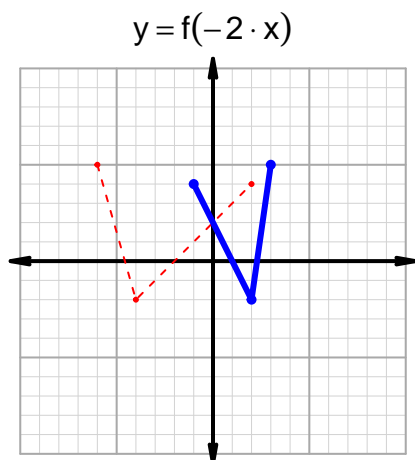


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

| Feature | Where |
|------------|-------------------------|
| Positive | $(-3, -1) \cup (1, 10)$ |
| Negative | $(-4, -3) \cup (-1, 1)$ |
| Increasing | $(-4, -2) \cup (0, 2)$ |
| Decreasing | $(-2, 0) \cup (2, 10)$ |
| Domain | $(-4, 10)$ |
| Range | $(-5, 5)$ |

Intervals, Transformations, and Slope Solution (version 39)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 33$ and $x_2 = 53$. Express your answer as a reduced fraction.

| x | $g(x)$ |
|-----|--------|
| 33 | 87 |
| 53 | 91 |
| 87 | 53 |
| 91 | 33 |

$$\frac{g(53) - g(33)}{53 - 33} = \frac{91 - 87}{53 - 33} = \frac{4}{20}$$

The greatest common factor of 4 and 20 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{1}{5}$$